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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/273,448	03/22/1999	SHINGO OHKAWA	1185.1044/JD	7146

21171 7590 03/10/2004
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EXAMINER

NGO, HUYEN LE

ART UNIT PAPER NUMBER

2871

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/273,448

Applicant(s)

OHKAWA, SHINGO

Examiner

Julie-Huyen L. Ngo

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AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-22,25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-22,25 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 17, 2003 has been entered.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter recited in the following claims 13, 25 and 26. See 37CFR 1.75(d)(1) and MPEP § 608.01(o). Also Applicant shall not introduce new matter into the disclosure of the invention.

Correction of the following is required:

In claims 13 and 25, "*a light control member with a great number of pairs of first and second slopes ... that first slopes mainly receive light from the first primary light source and the second slopes mainly receive light from the second primary light source.*"

In claim 26, "*said prismatic light control member has a first half next to said first primary light source, and a second half next to said second primary light source, and*

said first slopes on said second half of said prismatic light control member receive said light from said first primary light source, and said second slopes on said first half of said prismatic light control member receive said light from said second primary light source."

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "*first slopes mainly receive light from the first primary light source and the second slopes mainly receive light from the second primary light source,*" recited in claims 13 and 25; and "*said prismatic light control member has a first half next to said first primary light source, and a second half next to said second primary light source, and said first slopes on said second half of said prismatic light control member receive said light from said first primary light source, and said second slopes on said first half of said prismatic light control member receive said light from said second primary light source,*" recited in claim 26 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-16, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda et al. (US5963280A) in view of Oyama et al. (US5808708A) and further in view of Miyashita et al. (US 6011602 A).

With respect to claim 13 and 25, Okuda et al. disclose (Fig. 4, col. 16 line 62 to col. 17 line 17) a liquid crystal display (LCD) including a liquid crystal display panel and a surface light source device of side light type for backlighting of the liquid crystal display panel, said surface light source device comprising:

- a first guide plate;
- a first light source to the backlight the liquid crystal display panel, said first light source comprising:
 - a first guide plate
 - a first/second primary light source 17
 - a second guide plate laminated to the first guide plate;
 - a second/third light source 8 with blue color disposed beside the second guide plate;

- said first guide plate having two major faces to provide a first emission face and a first back face and having a minor face to provide a first incidence end face;
- said second guide plate having two major faces to provide a second emission face and a second back face and having a minor face to provide a second incidence end face;
- said first guide plate and said second guide plate being laminated arranged so that said second back face extends along said first emission face;
- said first incidence end face and said second incidence end face being located opposite to each other across said laminatedly arranged guide plates, wherein
- a light control member (the scattering layer 14) to control directivity of output illumination light disposed along said second emission face.

However, Okuda et al. fail to disclose:

1) that said light control member is a prismatic light control member having:

- a great number of pairs of first and second slopes to control directivity of output illumination light is disposed along said second emission face so that said first slopes mainly receive light from said first primary light source and said second slopes mainly receive light from said second primary light source (claims 13 and 25).

- a first half next to said first primary light source, and a second half next to said second primary light source, and said first slopes on said second half of said prismatic light control member receive said light from said first primary light source, and said second slopes on said first half of said prismatic light control member receive said light from said second primary light source (claim 26); and

2) a driving circuit to drive the first primary light source and the second primary light source.

Although Okuda et al. do not clearly disclose a driving circuit to drive the first primary light source and the second primary light source. One of ordinary skill in the art would have known that there must be a driver circuit to drive/control the light sources for adjusting the intensity of output light from the light source(s) or for selectively outputting a specific color display, as evidenced by Oyama with the control circuit 16 for controlling the light sources 3 on the back surface of the light guiding plates 4a/14 (Figs. 2, 3 and 8, col. 1, lines 26-33, col. 7, lines 24-27 and col. 11, lines 26-28).

Therefore, It would have been obvious for Okuda LCD to employ a driver circuit such as the control circuit 16, as taught by Oyama, for controlling the first primary light source 17 and the second primary light source 8.

Miyashita et al. teach (Figs. 23-25) forming a prismatic light control member 321 with a great number of pairs of first and second slopes to control directivity of output illumination light, said prismatic light controller member is disposed along an emission

face of the light guide 307. The first slopes mainly receive light 305 from one side of the light guide or the light source 322, and the second slopes mainly receive light 306 from another side of the light guide to control the directivity of the light illuminated from the light guide for improving the frontal illumination performance.

Therefore, it would have been obvious for Okuda in view of Oyama LCD to employ a prismatic light control member 321 with a great number of pairs of first and second slopes to control directivity of output illumination light, and be disposed along the second emission face of the guide plate so that the first slopes mainly receive light from said first primary light source 17 and said second slopes mainly receive light from said second primary light source 8 for improving the frontal illumination performance, as taught by Miyashita et al.

With respect to claim 14, it would have been obvious for one of ordinary skill in the art to selectively turning off one of the first and second primary light sources to adjust the intensity of light output or for selecting a specific color display. Therefore, the driver circuit in Okuda in view of Oyama LCD device would obviously capable of turning off only one of the first and second primary light sources.

With respect to claims 15 and 16, Okuda et al. teach (Fig. 4) that said first and second guide plates have wedge-shaped cross sections so that said first and second incidence end faces are located at thicker ends of the cross sections, respectively.

Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda et al. in view of Oyama et al. and Miyashita et al. as applied above to claims 13-16, and further in view of Ohkawa (US 5997148).

Ohkawa teaches (figs. 1 and 2 and col. 5, line 32-col. 6 line 14) forming a great number of projection rows 102 running approximately at right angles with respect to the incidence end face 12A on the lower edge/back face 12B of a guide plate 12 for preventing the reflective appearance have a possibility to influence the directivity of characteristic of emission light from the emission surface 12C of light guide 12. Doing so would suppress the appearance of bright light entering the vicinity of the lower edge EI and provides output light having high uniformity.

Therefore, it would have been obvious for one of ordinary skill in the art to form a great number of projection rows running approximately at right angles with respect to the first incidence end face on the first back face of the first light guide of Okuda in view of Oyama and Miyashita LCD device for suppressing the appearance of bright light entering the vicinity of the lower edge and provides output light having high uniformity, as taught by Ohkawa.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda in view of Oyama and Miyashita et al. as applied above to claims 13, and in further view of Arai (US6049649).

With respect to claim 21, a prism sheet (light control member) is conventionally used to modify the preferential propagation direction such as frontal direction of output

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light in a surface light source device such as the light control members 4/14 disclosed by Arai (figures 3,4 and 11-18). This light control member is provided with slopes on the inner reflection surface facing the emission surface of the light guide to modify the directivity of illumination output light from the light guide and for uniform illuminating of the output light.

Therefore, it would have been obvious for one of ordinary skill in the art to employ a light control member having the slopes provided on the inner reflection surface in Okuda in view of Oyama and Miyashita LCD device to modify the directivity of illumination output light so that illumination output light originated from any one of the first and second primary light source is directed to the frontal direction with respect to the second emission face, as taught by Arai.

With respect to claim 22, the light control member employed in Okuda LCD in view of Oyama, Miyashita and Arai, as applied to claim 21 above, would obviously has an inner face provided with a great number of projection rows running approximately parallel with respect to the second incidence end face, wherein each of said projection rows including a pair of first and second slopes for modifying the directivity of illumination output light from the second emission surface of the second guide plate.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5957561 A and US 6345899 B1 discloses a surface light source device of side light type comprising prism sheets 6, 7 acting as a light control member having the projections or slopes on the surface of the prism pointing upward toward the surface of a display.

Ishikawa et al (US 6024463 A) and Masaki et al. (US 6104854 A) disclose a surface light source LCD device comprising an asymmetric prism 5 in figures 4 and figures 10A&B, respectively.

WO 9729398 A1 discloses a surface light source LCD device comprising an asymmetric prism sheet (4').

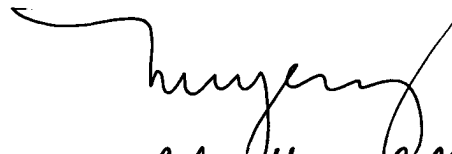
Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Julie-Huyen L. Ngo whose telephone number is (571) 272-2295. The Examiner can normally be reached on T-Friday.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Robert H. Kim can be reached at (571) 272-2293.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1562.

March 2, 2004


Julie-Huyen L. Ngo
Patent Examiner
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